



PTO/SB/21 (08-03)  
Approved for use through 08/30/2003. OMB 0651-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)	Application Number	10/687,017	
	Filing Date	October 16, 2003	
	First Named Inventor	Yaming Jin	
	Art Unit	Not Yet Assigned	
	Examiner Name	Not Yet Assigned	
Total Number of Pages in This Submission	13+	Attorney Docket Number	1856-24501

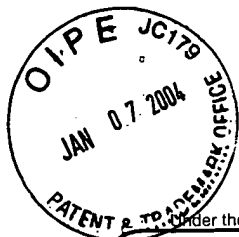
ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance communication to Technology Center (TC)
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Change of Correspondence Address	<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): PTO Form 1449 w/ 27 Refs; & Card
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	
<input checked="" type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Request for Refund	
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	
<input type="checkbox"/> Response to Missing Parts/Incomplete Application	Remarks	
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Tod T. Tumey, PTO Reg. No. 47,146 CONLEY ROSE, P.C.
Signature	
Date	January 5, 2004

CERTIFICATE OF TRANSMISSION/MAILING	
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.	
Typed or printed name	Ella R. Sisco
Signature	
Date	January 5, 2004

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



PTO/SB/08A (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 4

**Complete if Known**

Application Number	10/687,017
Filing Date	October 16, 2003
First Named Inventor	Yaming Jin
Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	1856-24501

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
		US- 2,892,858	06-30-1959	Ziegler	
		US- 3,852,190	12-03-1974	Buss et al.	
		US- 4,012,313	03-15-1977	Buss et al.	
		US- 4,063,851	12-20-1977	Weldon	
		US- 4,224,192	09-23-1980	Foster et al.	
		US- 4,387,085	06-07-1983	Fanelli et al.	
		US- 4,617,183	10-14-1986	Lewis et al.	
		US- 4,708,945	11-24-1987	Murrell et al.	
		US- 4,744,974	05-17-1988	Lewis et al.	
		US- 4,831,007	05-16-1989	Murrell et al.	
		US- 4,891,127	01-02-1990	Murrell et al.	
		US- 5,055,019	10-08-1991	Meyer et al.	
		US- 5,102,851	04-07-1992	Eri et al.	
		US- 5,116,879	05-26-1992	Eri et al.	
		US- 5,134,107	07-28-1992	Narula	
		US- 5,232,580	08-03-1993	Le et al.	
		US- 5,837,634	11-17-1998	McLaughlin et al.	
		US- 6,063,358	05-16-2000	Lindquist et al.	
		US- 6,224,846	05-01-2001	Hurlburt et al.	

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
		GB 640,965	08-02-1950	Anglo-Iranian Oil Co.		
		GB 2 352 194 A	01-24-2001	Sasol Technology		
		WO 02/07883 A2	01-31-2002	Sasol Technology		
		WO 99/42214	08-26-1999	Sasol Technology		

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449/PTO

*(Use as many sheets as necessary)*

Sheet	2	of	4
-------	---	----	---

**Complete if Known**

Application Number	10/687,017
Filing Date	October 16, 2003
First Named Inventor	Yaming Jin
Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	1856-24501

## U. S. PATENT DOCUMENTS

[illegible]

## FOREIGN PATENT DOCUMENTS

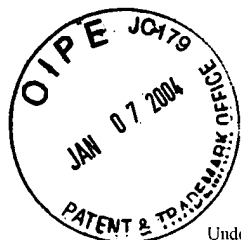
[illegible]

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>Substitute for form 1449B/PTO</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		<b>Complete if Known</b>			
		<b>Application Number</b>	10/687,017		
		<b>Filing Date</b>	October 16, 2003		
		<b>First Named Inventor</b>	Yaming Jin		
		<b>Group Art Unit</b>	Not Yet Assigned		
		<b>Examiner Name</b>	Not Yet Assigned		
<b>Sheet</b>	3	<b>of</b>	4	<b>Attorney Docket Number</b>	1856-24501

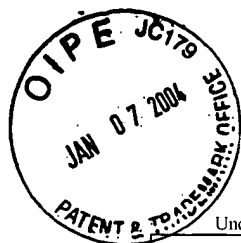
NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate) title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issued number(s), publisher, city and/or country where published.	T <sup>2</sup>
		IHNS SCHULZ; Short History and Present Trends of Fischer-Tropsch Synthesis; Abstract; Universiot Karlsruhe, Germany; 10 pages.	
		M. ABSI-HALABI, et al.; "Studies on Pore Size Control of Alumina: Preparation of Alumina Catalyst Extrudates with Large Unimodal Pore Structure by Low Temperature Hydrothermal Treatment"; Preparation of Catalysts V, 1991 Elsevier Science Publishers B.V., Amsterdam, pp. 155 - 163.	
		ALCOA WORLD CHEMICAL; "High purity, high density, boehmite aluminas"; ALCOA Product Data USA/6070-RO4/0801; 2 pages.	
		ALCOA WORLD CHEMICAL; "High purity, high density, boehmite aluminas"; ALCOA Product Data Sheet USA/6070-RO4/0801; 2 pages.	
		CONDEA; "High purity activated aluminas PURALOX, CATALOX"; Product Information Sheet 10/99; 6 pages	
		RONG-SHENG ZHOU, et al.; "Structures and Transformation Mechanisms of the $\eta$ , $\gamma$ and $\theta$ Transition Aluminas"; International Union of Crystallography 1991; Institute for Ceraminc Superconductivity, New York State College of Ceramics, Alfred University, Alfred, NY 14802, USA; pp. 617-630	
		RICHARD L. SMITH, et al.; "The Influence of Diaspore Seeding and Chlordie Concentration on the Transformation of 'Diasporic' Precursors to Corundum"; Journal of the American Ceramic Society, October 16, 2000; 31 pages.	
		S. MATSUDA, et al.; "A New Support Material for Catalytic Combustion Above 1000 C"; 8th International Congress on Catalysis; Vol. IV: Impact of surface science on catalysis, structure-selectivity/activity correlations, new routes for catalyst synthesis, pages IV-879-IV-889.	
		H.C. STUMPF, et al.; "Thermal Transformations of Aluminas and Alumina Hydrates"; Industrial and Engineering Chemistry, Vol. 42, No. 7, July 1950; pages 1398-1403.	
		SHU-HUI CAI, et al.; "Atomic Scale Mechanism of the Transformation of $\gamma$ -Alumina to $\theta$ -Alumina"; The American Physical Society 2002; Physical Review Letters, Vol. 89, No. 23; December 2, 2002; 4 pages.	
		ZHONG-WEN LIU, et al.; "Partial Oxidation of Methane Over Nickel Catalysts Supported on Various Aluminas"; Korean J. Chem. Eng., Vol. 19, No. 5, pages 735-741 (2002).	

<b>Examiner Signature</b>		<b>Date Considered</b>	
-------------------------------	--	----------------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>Substitute for form 1449B/PTO</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				<b>Complete if Known</b>	
				<b>Application Number</b>	10/687,017
				<b>Filing Date</b>	October 16, 2003
				<b>First Named Inventor</b>	Yaming Jin
				<b>Group Art Unit</b>	Not Yet Assigned
				<b>Examiner Name</b>	Not Yet Assigned
<b>Sheet</b>	4	<b>of</b>	4	<b>Attorney Docket Number</b>	1856-24501

<b>NON PATENT LITERATURE DOCUMENTS</b>			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate) title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issued number(s), publisher, city and/or country where published.	T <sup>2</sup>
		HYUN-SEOG ROH, et al.; "Partial Oxidation of Methane Over Ni/θ-A1 <sub>2</sub> O <sub>3</sub> Catalysts"; Chemistry Letters 2001; March 19, 2001; pages 666-667.	
		HYUN-SEOG ROH, et al.; "Partial Oxidation of Methane Over Ni/Ce-ZrO <sub>2</sub> /θ-A1 <sub>2</sub> O <sub>3</sub> "; Korean J. CHem. Eng., Vol. 19, No. 5; pages 742-748 (2002).	
		HIROMICHI ARAI, et al.; "Thermal stabilization of catalysts supports and their application to high-temperature catalytic combustion"; Applied Catalysis A: General 138 (1996); pages 161-176; Elsevier Science Publishers B.V., Amsterdam.	
		BERNARD BEGUIN et al.; "Stabilization of alumina by addition of lanthanum"; Applied Catalysis A: General 138 (1996); pages 161-176; Elsevier Science Publishers B.V., Amsterdam.	
		FRANCOIS OUDET, et al.; "Thermal Stabilization of Transition Alumina by Structural Coherence with LnAlO <sub>3</sub> (Ln = La, Pr, Nd)"; Journal of Catalysts Vol. 114; pages 112-120 (1988).	
		H. SCHAPER, et al.; "The Influence of Lanthanum Oxide on the Thermal Stability of Gamma Alumina Catalyst Supports"; Applied Catalysis, Vol. 7 (1983), pages 211-220; Elsevier Science Publishers B.V., Amsterdam.	
		JALAJAKUMARI NAIR, et al.; "Pore Structure Evolution of Lanthana-Alumina Systems Prepared Through Coprecipitation"; J. Am Ceram. Soc., Vol. 83, No. 8; pages 1942-46 (2000).	
		S. N. RASHKEEV, et al.; "Transition metal atoms on different alumina phases: The role of subsurface sites on catalytic activity"; Physical Review B, Vol. 67, No. 115414; 4 pages.	
		HENNIE SCHAPER, et al.; "Thermal Stabilization of High Surface Area Lumina"; Solid State Ionics, Vol. 16 (1985), pages 261-266.	
		XIAOYIN CHEN, et al.; "High temperature stabilization of alumina modified b lanthanum species"; Applied Catalysis A: General, Vol. 205 (2001); pages 159-172.	
		S. SUBRAMANIAN, et al.; "Characterization of lanthana/alumina composite oxides"; Journal of Molecular Catalysis, Vol. 69 (1991); pages 235-245.	
		P. SOUZA SANTOS, et al.; "Standard Transition Aluminas. Electron Microscopy Studies"; Materials Research, Vol. 3, No. 4; pages 104-114, 2000.	

<b>Examiner Signature</b>		<b>Date Considered</b>	
-------------------------------	--	----------------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.